

WHAT IS CLAIMED IS:

1. A process for the preparation of epoxides comprising reacting an olefinic compound with a peroxide compound in the presence of an epoxidation catalyst obtained according to a process comprising:

(a) blending a mixture comprising a titanium zeolite powder, water, at least one binder, at least one plasticizer, a pore-forming substance and optionally other additives, in order to form a paste,

(b) shaping the paste obtained in step (a) by extrusion, in order to obtain an extrudate,

(c) drying in order to remove at least some of the water,

(d) calcining in order to remove at least some of the organic residues present, and comprising a granulation step carried out between the shaping step (b) and the drying step (c) or after the calcining step (d), in order to obtain extruded granules.

2. The process according to claim 1, wherein the titanium zeolite has a crystalline structure of the ZSM-5, ZSM-11, MCM-41 type, wherein there is more than 5% and less than 20% by weight compared to the weight of the titanium zeolite of the binder which is chosen from silicon derivatives and which is converted into a material forming the matrix of the catalyst during the calcination.

3. The process according to claim 1, wherein the titanium zeolite has an infrared absorption band at about $950\text{-}960\text{ cm}^{-1}$.
4. The process according to claim 1, wherein the titanium zeolite is a silicalite satisfying the formula $x\text{TiO}_2(1-x)\text{SiO}_2$ in which x is from 0.0001 to 0.5.
5. The process according to claim 1, wherein the extruded granules are cylindrical and have a diameter of from 0.5 to 5 mm, and a length of from 1 to 8 mm.
6. The process according to claim 1, wherein the catalyst contains from 1 to 99% by weight, of titanium zeolite, the remainder consisting of a matrix.
7. The process according to claim 1, wherein the plasticizer is a polysaccharide and the binder comprises a siloxane derivative.
8. The process according to claim 1 wherein the titanium zeolite powder employed in step (a) has a mean diameter of less than or equal to $10\text{ }\mu\text{m}$.

9. The process according to claim 1, wherein the amount of plasticizer employed in step (a) is at least 1% and is less than 10% by weight relative to the weight of titanium zeolite employed.

10. The process according to claim 1, wherein the pore-forming substance is added to the mixture of step (a) in an amount of from 5 to 35% by weight relative to the weight of titanium zeolite employed.

11. The process according to claim 7, wherein the polysaccharide is a cellulose selected from the group consisting of methyl cellulose, carboxymethyl cellulose and hydroxyethyl cellulose and the silicon derivative comprises a siloxane.

12. The process according to claim 10, wherein the pore-forming substance is added to the mixture of step (a) in an amount of from 6 to 14% by weight.

13. The process according to claim 1, wherein the pore-forming substance comprises melamine.

14. A process for the preparation of an epoxide selected from the group consisting of 1,2-epoxy-3-chloropropane and 1,2-epoxypropane, comprising reacting an olefinic compound selected from the group consisting

of allyl chloride and propylene, with hydrogen peroxide, in the presence of an epoxidation catalyst obtained according to a process comprising:

- (a) blending a mixture comprising a titanium zeolite powder, water, at least one binder, at least one plasticizer, a pore-forming substance and optionally other additives, in order to form a paste,
- (b) shaping the paste obtained in step (a) by extrusion, in order to obtain an extrudate,
- (c) drying in order to remove at least some of the water,
- (d) calcining in order to remove at least some of the organic residues present, and comprising a granulation step carried out between the shaping step (b) and the drying step (c) or after the calcining step (d), in order to obtain extruded granules.